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Behavior, Energy & Climate Change (BECC) / November 12-15, 2023 / Sacramento, CA

# Be Aware to Prepare: Better Choice Architecture for Residential Equipment Failures

November 14, 2023

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# Monica's True Story

- First-time homeowner
- 25 yr. old home with a ~12 yr. standard tank water heater
- 1 Year later: no hot water!
- Replaced with a like-for-like inefficient model

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# Be Aware to Prepare

- When people don't have a replacement plan, they enter "crisis mode".
- In desperate situations, it is easier to stick with what you know (*status quo bias*) and do a like-for-like replacement or delegate to others
- The result: large-scale loss of energy savings for the life of the new equipment

# Addressing Status Quo Bias Related to Home Energy Equipment

Status-quo bias related to home energy equipment can be understood and addressed.

### Customer Research

Utilizing both quantitative and qualitative research methods

### Behavioral Science Assessment

Using ICF's new methodology

### Program Design Elements

Applying research and behavioral science to program design elements

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# Customer Research

Our team **surveyed 466 homeowners** and **conducted focus groups with 18 residential customers** to understand choices customers make when maintaining, repairing, or buying HVAC and water heating equipment.

### Lack of Planning

Customers with older equipment typically don't have a replacement plan in place.

Most customers with equipment more than 11 years old do not have a replacement plan in place.

### Inefficient Replacements

Customers who replace in an emergency often choose a like-for-like replacement

The customer is missing out on energy savings over the lifetime of the equipment.

### Infrequent Maintenance

Customers with older equipment typically don't service it unless it isn't working.

A very small percentage service their equipment at all and most customers only change their filters once per year.

** LEADING TO CRISIS-MODE SITUATIONS **

# Behavioral Science Assessment

Conducting a behavioral science assessment can provide valuable insights into human behavior, helping to inform interventions and strategies for the future.

### Understand Drivers of Behavior

Identify the psychological biases that influence behavior

### Behavioral Interventions

Develop interventions based on our understanding of human behavior

### Influence Customer Behavior

Create strategies to encourage planning for equipment failure, proactive replacement, and maintenance of equipment

Status quo bias was the primary bias influencing lack of planning, proactive replacement, and regular maintenance

# Biases Inhibiting Desired Behaviors

## Barriers / Biases

**Attentional Bias**

Focusing on other aspects of life and never thinking about home energy equipment

**Ostrich Effect**

Ignoring information that equipment may fail and choosing to stick with older equipment

**Information Overload**

Refraining from planning for equipment decisions because information needed is too overwhelming

**Choice Paralysis**

Failing to choose equipment and defaulting to a contractor

**Boomerang Effect**

Purchasing energy efficient equipment and then rarely servicing it and/or using more energy than previously

## Desired Customer Behaviors / Mindsets

**Awareness of Current Equipment Condition**

Accurately identifies the state of current equipment

**Motivation to Act**

Believes that replacing equipment proactively is a problem worth solving for

**Proactive Planning**

Create a service or replacement plan

**Energy Efficient Choices**

Proactively purchasing energy efficient equipment

**Routine Maintenance**

Perform regular maintenance on equipment

# Program Design: Be Aware to Prepare

Unlock the energy saving opportunities applying directly into a pilot design

### Plan in Place

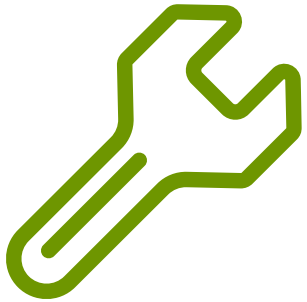
Help customers create a plan for equipment failure

Targeting customers with 11+ year old equipment

### Proactively Replacing Old Equipment

Encourage customers to replace inefficient HVAC and water heating equipment with higher efficient equipment

Targeting customers with 15+ year old equipment and beyond



### Routine Maintenance

Motivate customer to have their home equipment serviced regularly

Targeting all customers!

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# Key Takeaways

Behavioral Science is the key to unlocking loss energy savings by:

- **Understanding** decision-making processes
- **Influencing** their behaviors.

**Energy Savings New higher EE Equipment (Per Year)** X **Lifetime of higher EE Equipment (~15 yrs.)** X  = !

**Magnitude**
of energy savings

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# THANK YOU!

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